PRODUCT DATA SHEET

COLLAGEN HYDROGEL SCAFFOLDS (CHS)

Product Description

Collagen type I is an excellent substrate for the culture of adherent primary cells, stem cells and cell lines, enhancing cell attachment and providing a close to natural environment for biological studies.

Collagen Hydrogel Scaffolds (CHS) are 2 mm thick scaffolds made of pure type I collagen fibers from bovine dermis without chemical crosslinkers. Unique in the market, the complex native fiber network gives the hydrogel the natural consistency of real body tissue. Various stiffness grades are available, mimicking the aimed body tissue.

CHS come sterile, filling a 12-well plate. They are ready-to-use, without the need for a gelification step.

CHS are available in three different stiffness grades for tailored use

 | REVISION DATE: 11-04-2023

PRODUCT SPECIFICATIONS

Parameter	Collagen Hydrogel Scaffolds (CHS)
Main component	collagen type I
Source	bovine dermis
Appearance	solid, white gel
Thickness	2 mm
Format	for 12 well plates
Stiffness options elastic modulus (G') [Pa] / viscous modulus (G'') [Pa]	• 10 000 / 200 • 20 000 / 500 • 30 000 / 1000
Sterilization	beta radiation (E-beam)
Sterility testing	no bacterial or fungal growth
pH	neutral

APPLICATIONS

- Cell & tissue cultures
- Tissue models
- Tissue engineering & regenerative medicine
- Implantation studies
- Cell based assays (e.g. drug metabolism)

BENEFITS

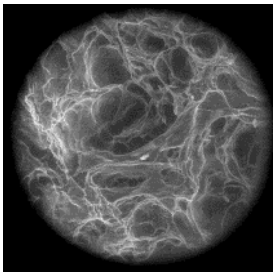
- ✓ Native type I collagen fibers provide natural signals for cells
- ✓ No use of chemical crosslinkers, proven *in vitro* biocompatibility
- ✓ Pure and intact collagen fibers create a robust and tailored 3D complex scaffold
- ✓ Various stiffness grades, robust and easy to handle
- ✓ Better reproduction of *in vivo* conditions - ideal tool for cell cultures!
- ✓ No gelification step needed ensuring constant quality and saving time

Viscofan BIOENGINEERING

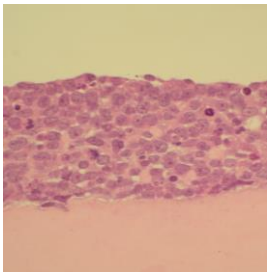
CHS FEATURES

Authentic cell & tissue performance on porous collagen structure

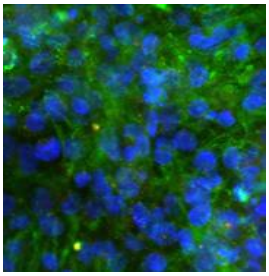
The natural collagen type I fibers form a porous matrix. Cell lines and primary cells can generate 3D layers that express relevant tissue markers.



ESEM image of the CHS-1010 internal structure, 297x magnification
(image courtesy of the Autonomous University of Barcelona)

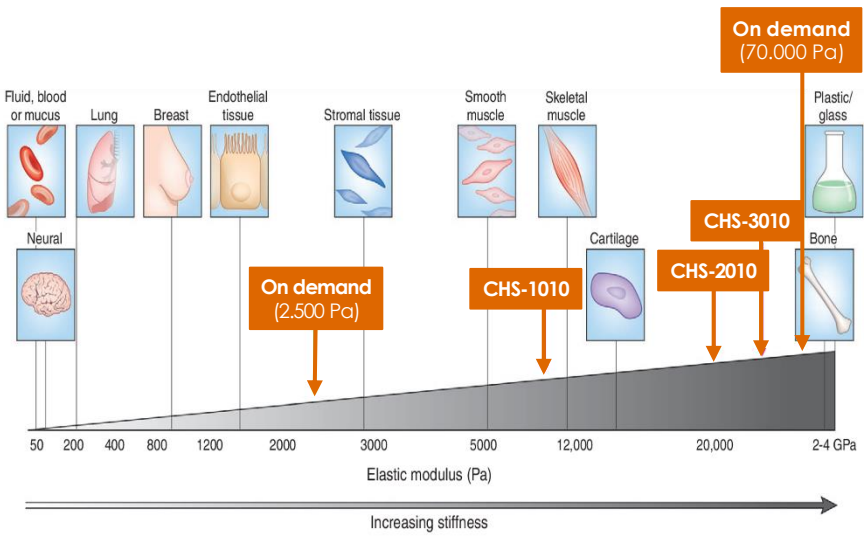


H-E staining of mesenchymal 3D multilayer after 10 days of culture on CHS-3010.
(Image courtesy of the Public University of Navarra)



DAPI (blue) & α-actinin (green) staining of hiPS-derived cardiomyocytes cultured on CHS 3010.
(Image courtesy of the University of Navarra)

CHS STIFFNESS CORRELATION WITH BODY TISSUES



CHS stiffness variants mimic the elastic properties of various body tissues (figure adapted from Cox and Erler, 2011).

CHS VARIANTS*

Product name	Elastic modulus G' [Pa]	Viscous modulus G'' [Pa]
CHS-1010	10.000	200
CHS-2010	20.000	500
CHS-3010	30.000	1.000

Please contact us for other shapes, sizes and stiffness grades.

Intended use

CHS are intended for research use only. They are neither intended for human nor animal diagnostic nor therapeutic use nor for any other clinical uses.

Quality

Produced under ISO 9001 quality management system.

Storage

Store at -20 °C. Upon thawing, the CHS may expulse some liquid which does not affect its features or use.

Storage life

12 months from the date of manufacture.

Corresponding documents

- User Guide: Cell Culture in Collagen Hydrogels

Ordering & Technical support

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Disclaimer

All data and recommendations correspond to the present state of our knowledge; they are published without engagement. We reserve the right to make alterations and additions in line with technical developments without prior notice. The customers are obliged to check whether our products meet their technical requirements.
Please contact us for questions or support.